REMARKS

Claims 1-5, 7-17 and 29 are now pending in the application. Claims 1, 7, and 9 have been amended and claim 6 has been cancelled. Features from dependent claims 6 and 9 are now included within independent claim 1. The dependency of claim 7 has been amended. Support is found in Figure 3 and paragraphs [0018] and [0019]. The Examiner is respectfully requested to reconsider and withdraw the rejections in view of the amendment and remarks contained herein.

REJECTION UNDER 35 U.S.C. § 102 – TANEMOTO ET AL.

Claims 1-6 and 14 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Tanemoto et al. (U.S. Pat. No. 6,395,416). This rejection is respectfully traversed.

Amended independent claim 1 is to a fuel cells that comprises, among other features, an electrically conductive member adjacent said electrode, wherein said electrically conductive member further comprises a metal plate having a major surface. The fuel cell also has a flow field comprising conductive particles dispersed in a binder. See, e.g., Figure 3 and paragraphs [0018] and [0019]. The conductive particles of the flow field can, for example, include carbon black and the binder can include polyimide. See paragraph [0021]. Thus, as set out in the claims and illustrated in the specification, the electrically conductive member and the flow field of the present invention are different features that include different materials.

In contrast, the Tanemoto reference discloses a separator having a collector portion formed of an electrically conductive filler, such as expansive graphite or carbon powder, and a resin, such as epoxy, phenol, liquid-crystal polyester, or polyimide resin.

Col. 5, lines 25-55. The mixture of electrically conductive filler and resin is injection molded to integrally mold a separator having channels. Thus, the separator and channels in Tanemoto are formed of the same material. The Tanemoto reference does not include an electrically conductive member and a separate flow field that are different features that include different materials. In particular, an electrically conductive member that includes a metal sheet is absent from Tanemoto. Accordingly, the reference does not include all the features of independent claim 1; therefore, independent claim 1 and dependent claims 2-6 and 14 are not anticipated. "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Withdrawal of the rejection and reconsideration of the claims are respectfully requested.

REJECTION UNDER 35 U.S.C. § 103 – TANEMOTO IN VIEW OF SWATHIRAJAN

Claims 7-9 and 15-17 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Tanemoto et al. (U.S. Pat. No. 6,395,416) in view of Swathirajan et al. (U.S. Pat. No. 5,272,017). This rejection is respectfully traversed.

As described previously, the Tanemoto reference fails to disclose all the features of independent claim 1, upon which claims 7-9 and 15-17 depend. Namely, an electrically conductive member that includes a metal sheet is absent from Tanemoto. Furthermore, there is no suggestion, appreciation, or motivation provided in the reference for including an electrically conductive member that includes a metal sheet. If anything, Tanemoto teaches away from separating its separator from its flow field

channels, as Tanemoto integrates the two by using a single material composition in an injection molding process.

The Swathirajan reference fails to cure the deficiencies from Tanemoto. Swathirajan is cited for addition of carbon cloth current collectors to the collector, but the Swathirajan reference lacks at least the aforementioned electrically conductive member of the present claims, which has a metal sheet. Moreover, there is no suggestion or motivation in Swathirajan to incorporate such an electrically conductive member.

At best, a skilled artisan might combine the carbon cloth current collectors from Swathirajan with the injection molded separator from Tanemoto that includes the formed channels. Such a combination still lacks a separate electrically conductive member having a metal sheet. To establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974); "All words in a claim must be considered in judging the patentability of that claim against the prior art." *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970). Accordingly, the present disclosure as embodied in claims 7-9 and 15-17 is nonobvious in view of these references. Withdrawal of the rejection and reconsideration are respectfully requested.

REJECTION UNDER 35 U.S.C. § 103 – TANEMOTO IN VIEW OF YAMADA

Claim 10 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Tanemoto et al. (U.S. Pat. No. 6,395,416) in view of Yamada et al. (U.S. Pat. No. 6,500,893). This rejection is respectfully traversed.

As described above, the Tanemoto reference fails to include at least an electrically conductive member having a metal sheet. Yamada discloses a separator formed of equal amounts of resin and graphite, molding the separator by injection molding or extrusion as described in column 8, but the reference does not disclose an electrically conductive member having a metal sheet. Therefore, use of the resin and filler formulations in Yamada with the separator from Tanemoto still fails to include all the features of claim 10, therefore claim 10 is nonobvious in view of these references. Withdrawal of the rejection and reconsideration are respectfully requested.

REJECTION UNDER 35 U.S.C. § 103 – TANEMOTO IN VIEW OF SWATHIRAJAN AND MCMANUS

Claims 11-14 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Tanemoto et al. (U.S. Pat. No. 6,395,416) in view of Swathirajan et al. (U.S. Pat. No. 5,272,017) and McManus et al. (U.S. Pat. App. Pub. No. 2003/0198857). This rejection is respectfully traversed.

As described above, the Tanemoto reference fails to include at least an electrically conductive member having a metal sheet.

The combination of Tanemoto, Swathirajan, and McManus fails to reproduce the present invention in that no combination of teachings from these references would include an electrically conductive member having a metal sheet. Swathirajan is cited for inclusion of a carbon cloth current collector, and McManus is cited for disclosing lands of varying heights. As described previously, the combination of Tanemoto and Swathirajan fails to recreate the present invention, and the addition of McManus fails to cure this deficiency, as McManus does not disclose an electrically conductive member

having a metal sheet. Furthermore, these references fail to suggest, appreciate, or provide the motivation to incorporate an electrically conductive member having a metal sheet as described in the present invention. Accordingly, claims 11-14 are nonobvious and withdrawal of the rejection and reconsideration are respectfully requested.

REJECTION UNDER 35 U.S.C. § 103 – TANEMOTO IN VIEW OF SWATHIRAJAN AND MCMANUS

Claim 29 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Tanemoto et al. (U.S. Pat. No. 6,395,416) in view of Fuss et al. (U.S. Pub. Pat. App. No. 2005/0095494). This rejection is respectfully traversed.

As described above, the Tanemoto reference fails to include at least an electrically conductive member having a metal sheet. Tanemoto includes a separator formed of a single piece and a single material, an electrically conductive filler and a resin binder. The channels forming the flow field are molded into the separator by injection molding, for example. Tanemoto does not disclose a separate electrically conductive member having a metal sheet and a separate flow field having conductive particles dispersed in a binder.

The Fuss reference is cited for providing an electrode that has striped catalytic/non-catalytic regions where the non-catalytic regions are aligned with lands of a conductive member. The office action alleges that it would have been obvious to incorporate the configuration of the electrode of Fuss in Tanemoto. However, this straightforward combination of Tanemoto and Fuss still fails to disclose an electrically conductive member having a metal sheet and a flow field having conductive particles dispersed in a binder. Accordingly, claim 29 is nonobvious.

Applicant further notes that the Fuss reference includes an electrically conductive fluid distribution element, which can be a bipolar plate having a metal sheet. However, the flow field in Fuss is formed such that it has catalytic activity that varies throughout the flow field. For example, Fuss discloses a flow field having a gradient of catalyst that is deposited on an electrically conductive fluid distribution element. In contrast, Tanemoto discloses an integral, single unit separator formed having a uniform flow field of electrically conductive filler and a resin binder. There is no suggestion, appreciation, or motivation provided in Tanemoto for separating the channels into a flow field and combining them with an electrically conductive member having a metal sheet. Likewise, the flow field in Fuss discloses a gradient of catalyst. The present disclosure does not use a gradient of catalyst. Hence, the straightforward combination does not recreate the present invention. If anything, Tanemoto teaches away from breaking up the separator from the flow field channels. Consequently, there is no way to simply combine the Tanemoto reference with the Fuss reference to arrive at Applicant's presently claimed invention.

Regarding any suggestion or motivation to modify the separator of the Tanemoto reference, Applicant further notes that the Patent Laws draw a distinction between trade-offs and motivation to combine: trade-offs often concern what is feasible, not what is necessarily desirable, whereas motivation to combine requires the latter. *See, e.g., Winner International Royalty Corp. v. Wang*, 2002 F.3d 1340, 53 USPQ2d 1580 (Fed. Cir.), *cert. denied*, 530 U.S. 1238 (2000). As the Examiner knows, it is improper for the Office to "pick and choose among individual parts of assorted prior art references 'as a mosaic to recreate a facsimile of the claimed invention.'" *Akzo N.V. v. U.S. Int'l*

Trade Comm'n, 808 F.2d 1471, 1481, 1 USPQ2d 1241, 1246 (Fed. Cir. 1986)(quoting *W.L.Gore & Accocs., Inc. v. Garlock*, 721 F.2d 1540, 1552, 220 USPQ 303, 312 (Fed. Cir. 1983)). As a result, only the present disclosure includes an electrically conductive member having a metal sheet and a flow field having conductive particles dispersed in a binder, and only the present disclosure provides the teaching to engineer such a feature.

CONCLUSION

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action and the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

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